

Figure 2.10 Temecula Station Segment 2A



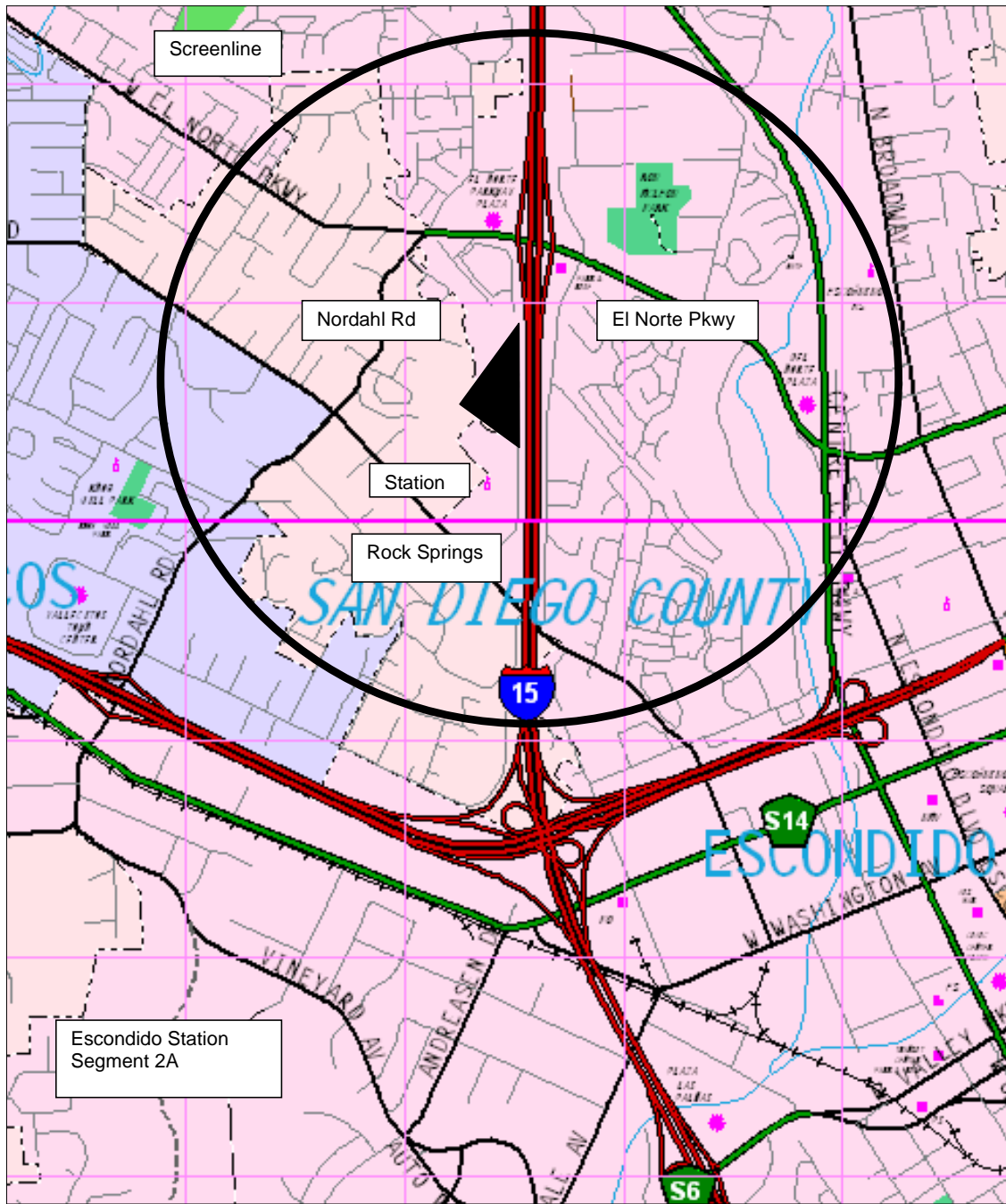
Figure 2.11 Escondido Rock Springs Station Segment 2A

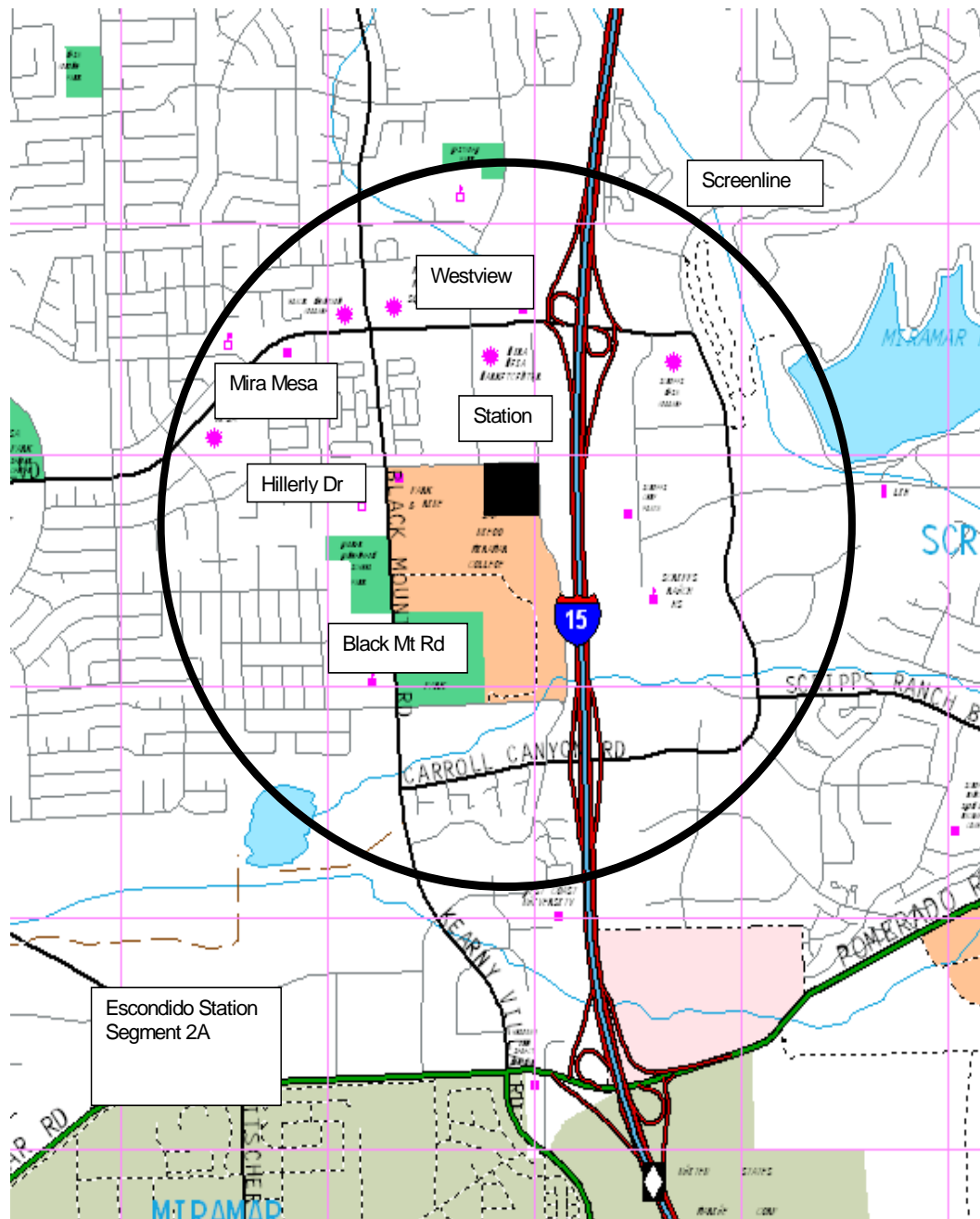
Figure 2.12 Mira Mesa Station Segment 2A

Figure 2.13 Qualcomm Station Segment 3A

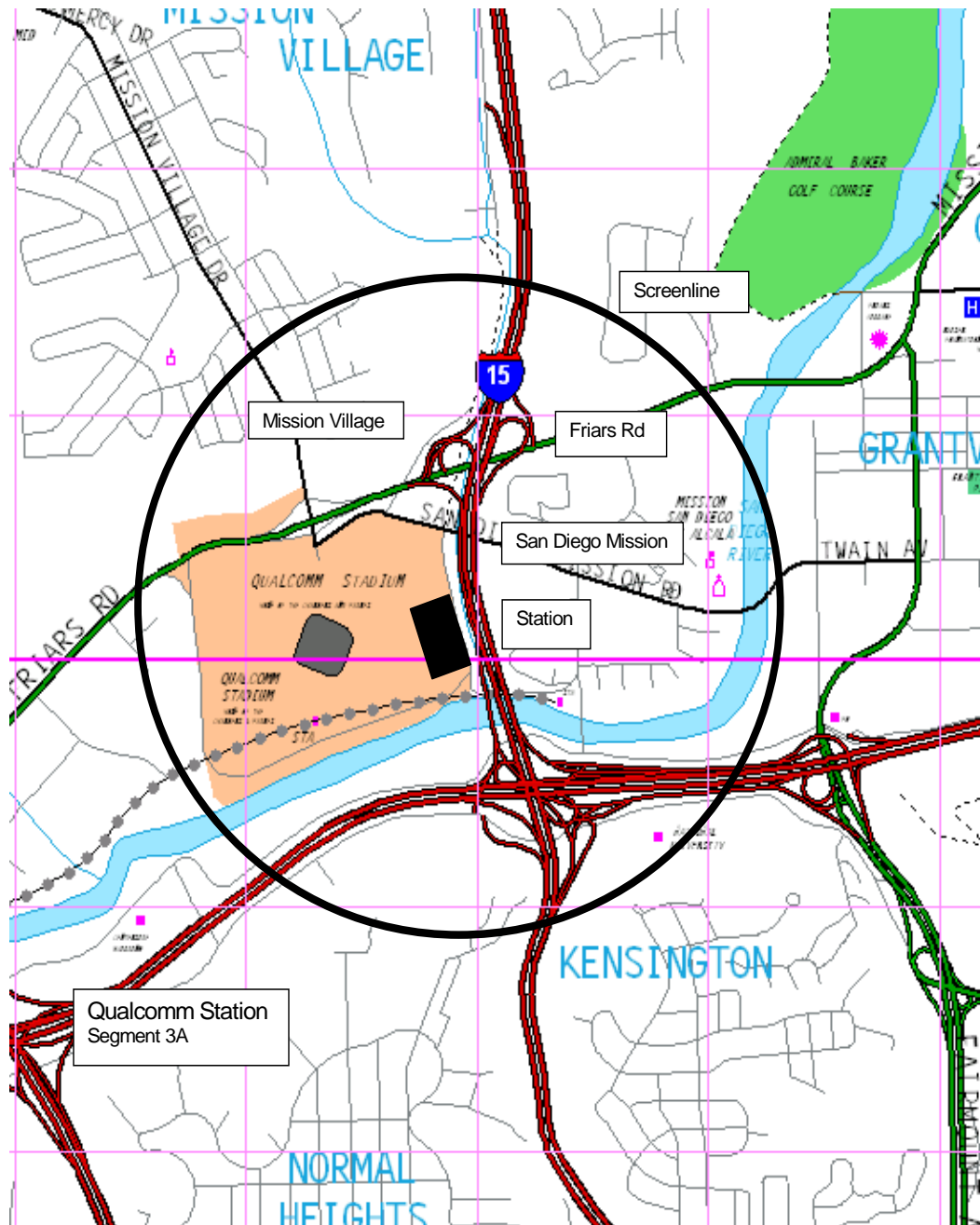


Figure 2.14 Escondido Transit Center Station Segment 2B

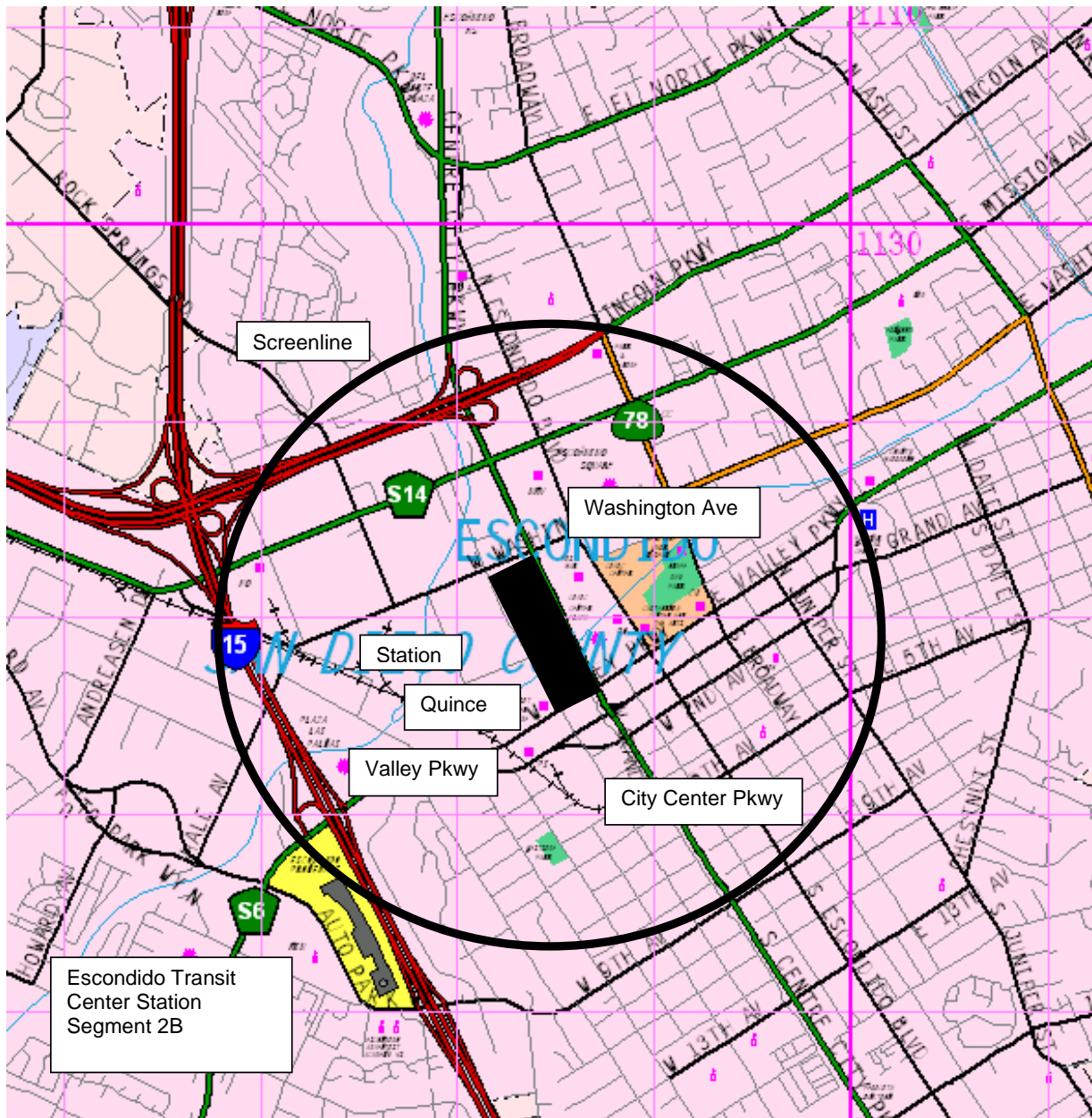


Figure 2.15 UTC Transit Center Station Segment 3B

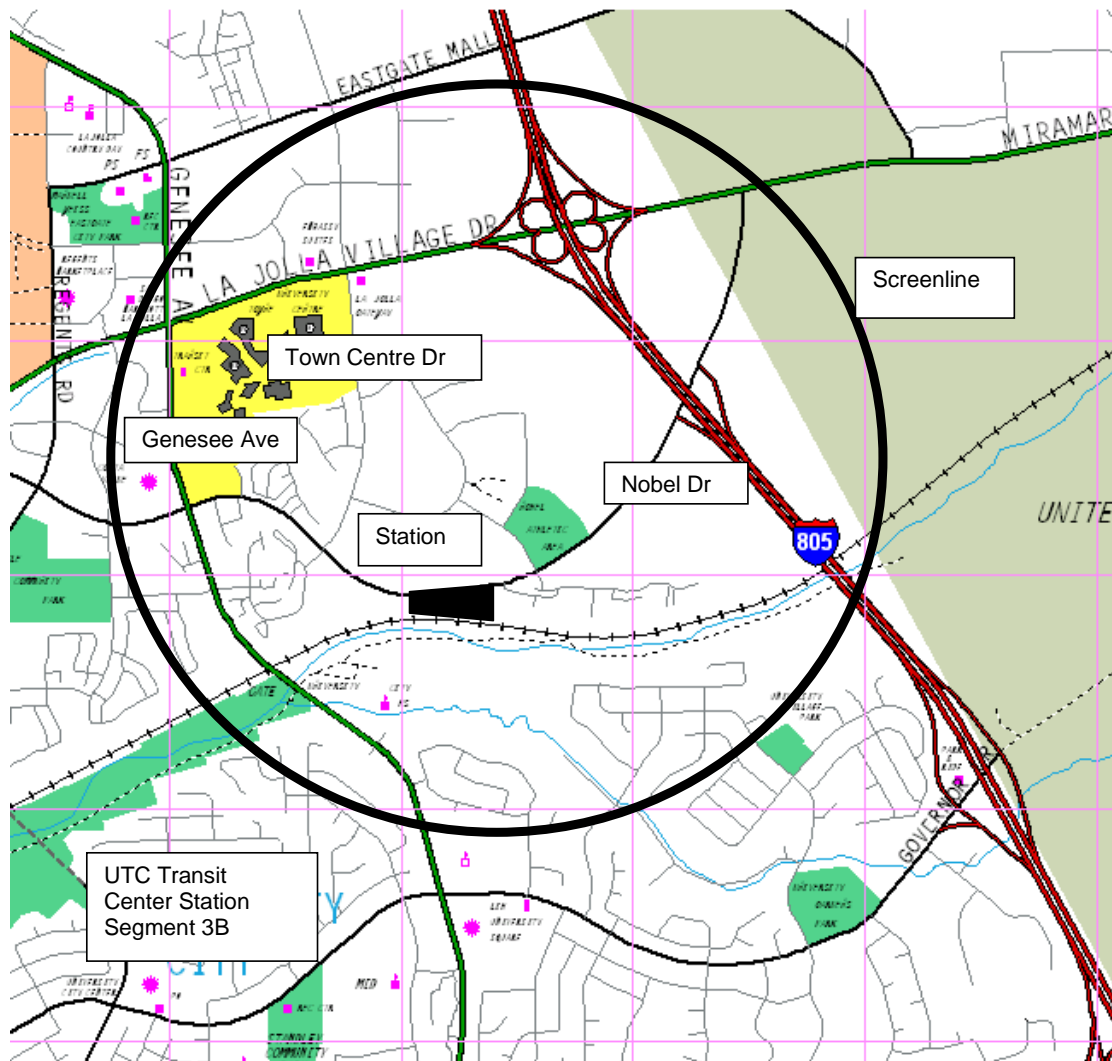


Figure 2.16 San Diego Airport Station Segment 3B

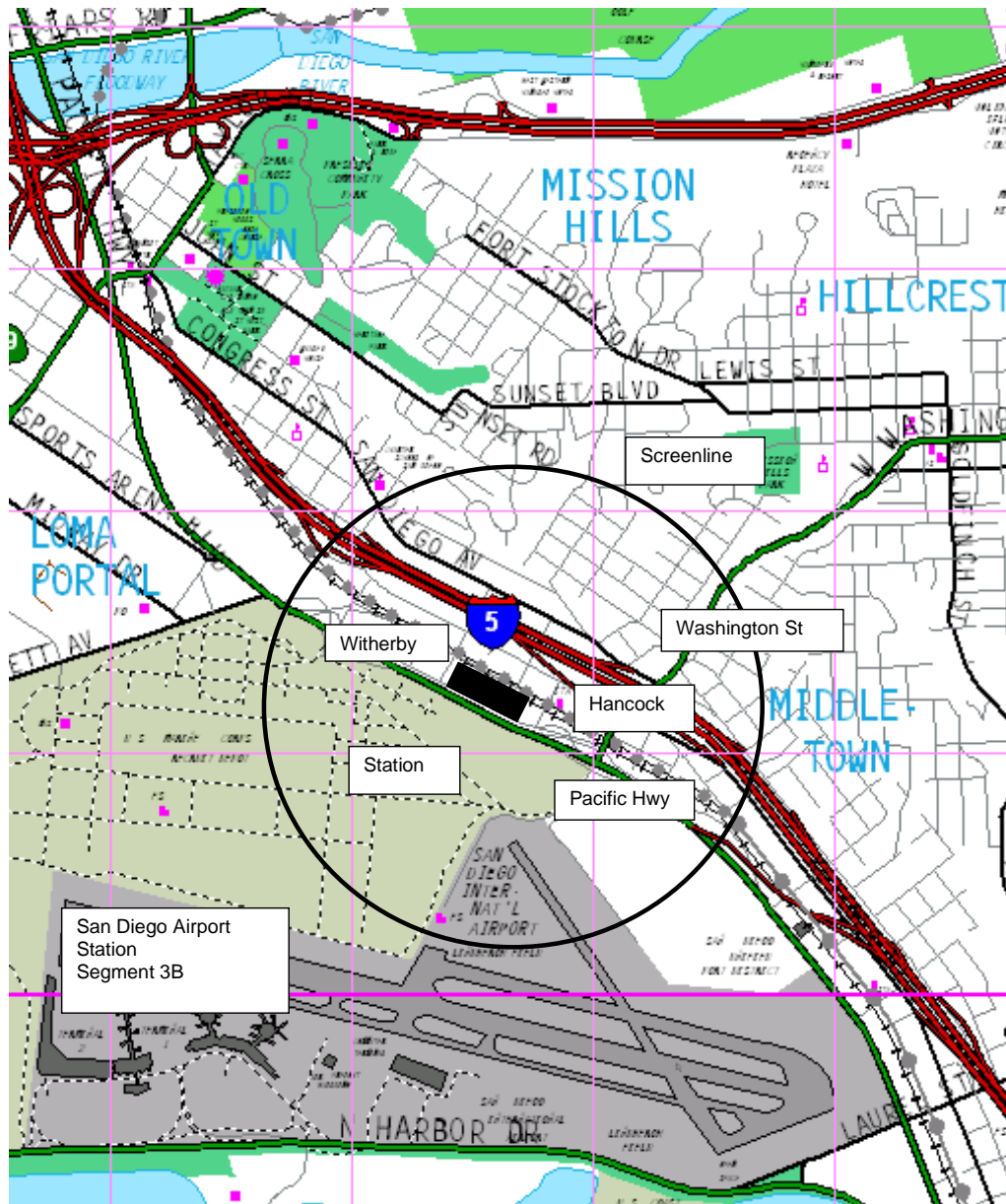


Figure 2.17 San Diego Downtown Station Segment 3B



Figure 2.18 Ontario International Airport

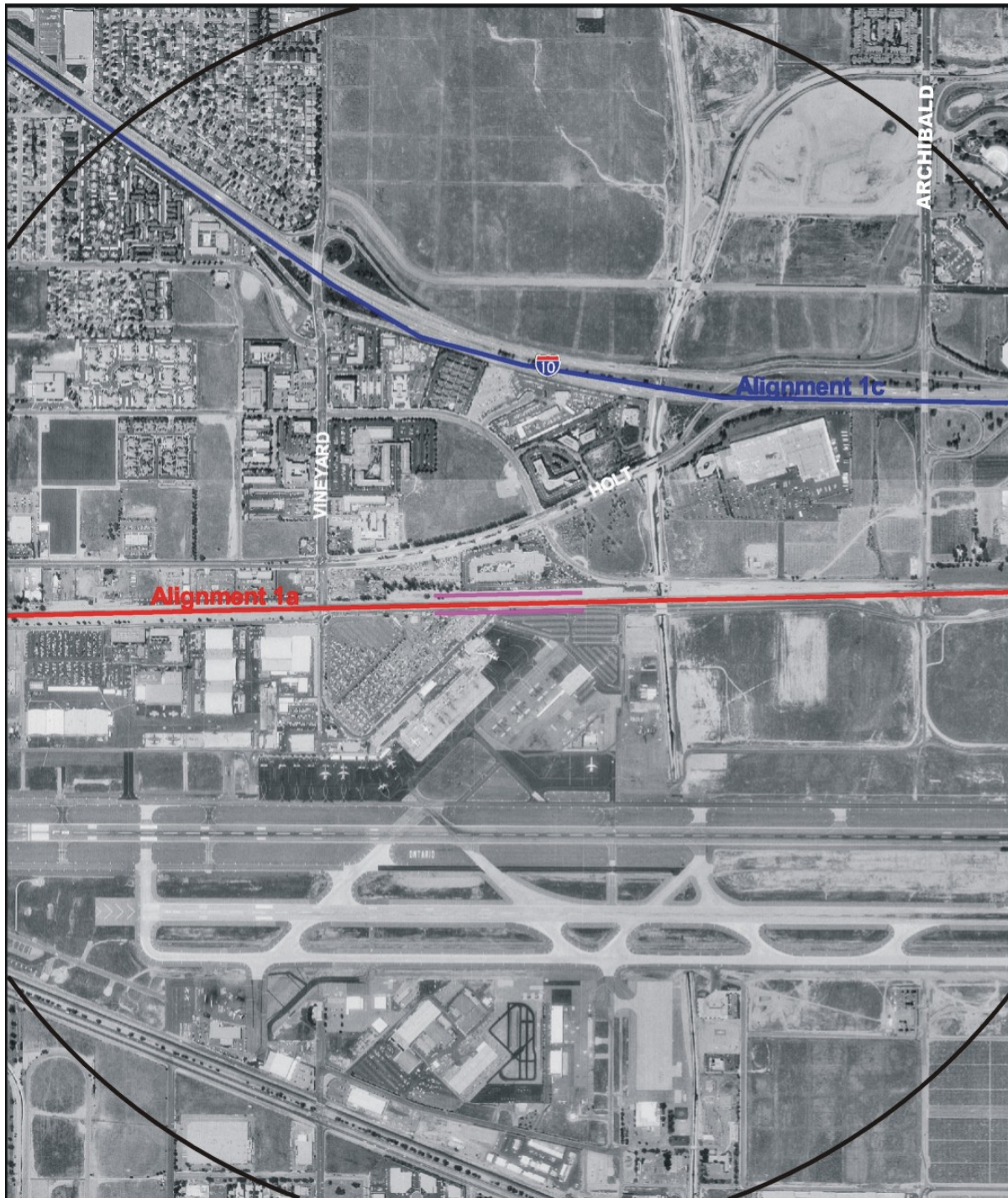
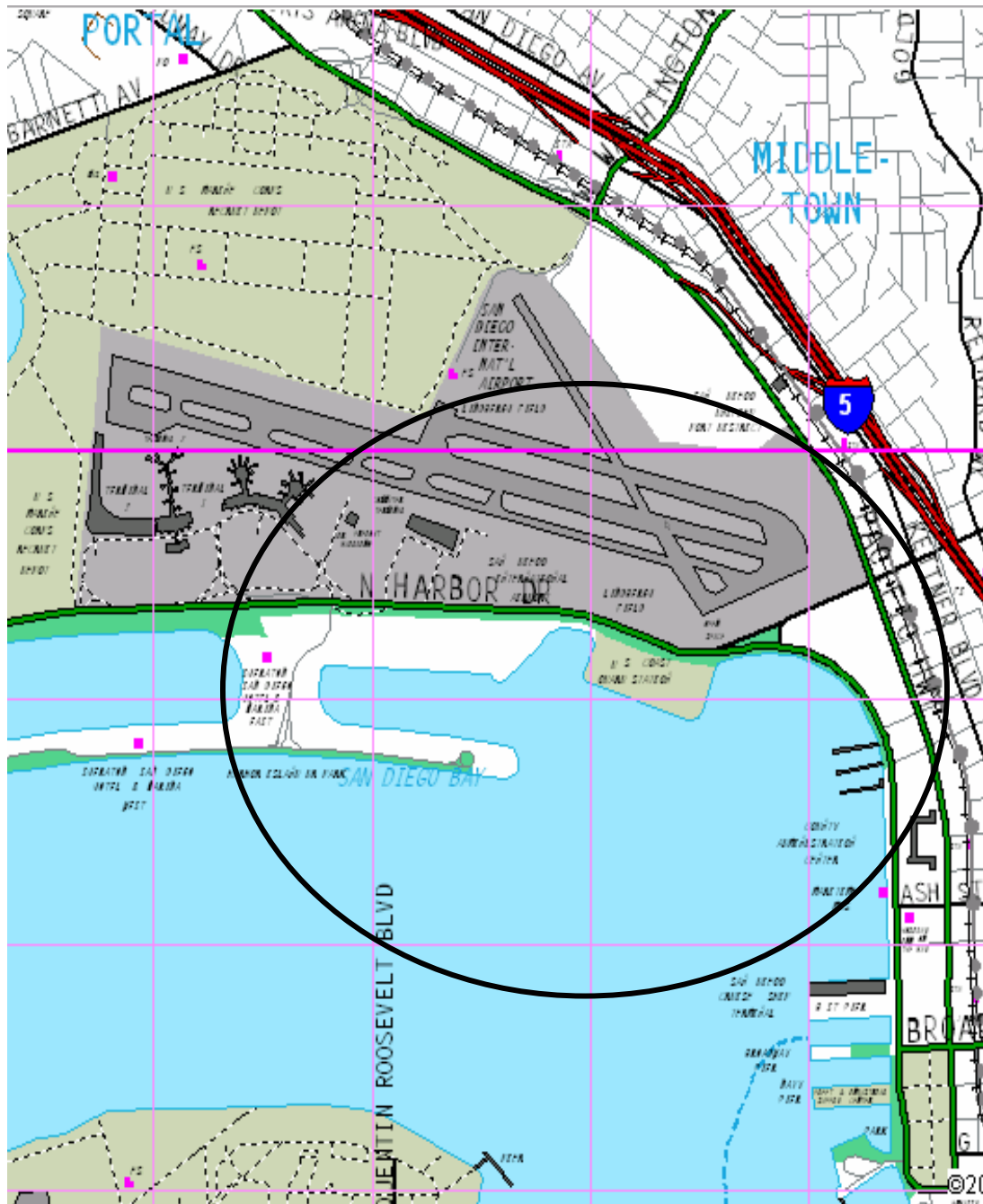


Figure 2.19 San Diego International Airport



2.4 BASELINE RATIOS OF DEMAND TO CAPACITY ACROSS SCREENLINES

For the Los Angeles, Riverside and San Bernardino County stations, the demand on the primary inbound roads were obtained from the Southern California Association of Government (SCAG) RIVSAN Comprehensive Transportation Plan (CTP) model. The 2002 traffic volumes (demand) were calculated by linear interpolation between 1994 and 2002 RIVSAN CTP forecast traffic volumes. The roadway capacities were obtained from the RIVSAN CTP model as well. For San Diego County, the baseline ratio of demand (volume) to capacity across the station screenlines has been aggregated based on existing Average Daily Traffic (ADT) volumes obtained from the San Diego Association of Governments (SANDAG) website divided by existing capacity conditions. All of the screenline volumes are for surface streets only. The station's aggregate roadway demand (total traffic volume), aggregate roadway capacity, and demand to capacity ratio are presented in Table 2.3.

Table 2.3 2002 Vehicle Demand and Capacity Across Station Screenlines

STATION	Total Screenline Traffic Volume (Vehicles Per Hour)	Total Screenline Capacity (Vehicles Per hour)	Total V/C	LOS
El Monte Station (1A)	6,234	8,750	0.71	C
South El Monte Station (1B)	3,094	6,250	0.49	A
City of Industry Station (1B)	3,865	7,350	0.52	A
Pomona Station (1A)	10,127	15,000	0.67	B
Ontario Station (1A)	5,812	10,875	0.54	A
Colton Station (1A)	4,497	11,600	0.38	A
UCR Station (1A)	816	4,700	0.17	A
San Bernardino Station (1C)	5,344	14,000	0.38	A
March ARB Station (1A)	1,492	3,800	0.39	A
Temecula Station (2A)	1,157	3,300	0.35	A
Escondido Rock Springs (2A2)	4,730	6,600	0.72	C
Mira Mesa (3A1)	14,250	19,500	0.73	C
Qualcomm (3A1)	13,390	11,400	1.17	F
Escondido Transit Center (2B1)	10,560	13,500	0.78	C
UTC Transit Center (3B2)	6,710	10,800	0.62	B
San Diego Airport (3B2)	11,482	14,700	0.78	C
Downtown San Diego (3B2)	9,250	18,000	0.51	A

The airport's aggregate roadway demand (total traffic volume), aggregate roadway capacity, and demand to capacity ratio are presented in Table 2.4.

Table 2.4 2002 Vehicle Demand and Capacity Across Airport Screenlines

AIRPORT and CORDON STREETS	Total Screenline Traffic Volume (Vehicles Per Hour)	Total Screenline Capacity (Vehicles Per hour)	Total V/C	LOS
ONTARIO INTERNATIONAL AIRPORT				
Airport Dr WB (Commerce Pkwy and Haven)	495	550	0.90	D
Airport Dr EB (Grove and Vineyard)	248	550	0.45	A
Vineyard (D St and Holt)	984	1,250	0.79	C
Archibald (I-10 and Airport Dr)	752	1,100	0.68	B
SAN DIEGO AIRPORT	495	550	0.09	A
Pacific Hwy (Sassafras to Laurel)	2,200	4,500	0.49	A
Laurel St (Pac Hwy to Kettner)	3,000	3,000	1.00	E
Hawthorn St (Pac Hwy to Kettner)	2,200	2,700	0.81	D
Grape St (Pac Hwy to Kettner)	2,900	2,250	1.29	F
Pacific Hwy (Grape to Ash)	2,600	5,400	0.48	A
North Harbor Dr (Grape to Ash)	2,400	5,400	0.44	A
North Harbor Dr (Nimitz to Spanish)	2,200	5,400	0.41	A

The intercity highways aggregate roadway demand (total traffic volume), aggregate roadway capacity, and demand to capacity ratio are presented in Table 2.5.

Table 2.5 2002 Vehicle Demand, Capacity and Total V/C Across Highway Screenlines

INTERCITY HIGHWAY	Total Screenline Traffic Volume (Vehicles Per Hour)	Total Screenline Capacity (Vehicles Per hour)	Total V/C
I-10 (I-5 and East San Gabriel Valley)	9,335	7,800	1.20
I-10 (East San Gabriel Valley and ONT Airport)	10,954	7,800	1.40
I-10 (Ontario Airport and I-15)	10,316	7,800	1.32
I-10 (I-15 and I-215)	7,792	7,800	1.00
I-15 (I-10 and I-215)	6,117	7,800	0.78
I-215 (Riverside and I-15)	6,751	5,850	1.15
I-215 (I-10 and Riverside)	3,009	5,850	0.51
I-215 (I-15 and Temecula)	3,751	7,800	0.27
I-15 (Temecula and Escondido)	4,786	6,000	0.80
I-15 (Escondido and Mira Mesa)	10,304	7,500	1.37
I-15 (Mira Mesa and SR 163)	12,889	9,000	1.43
SR 163 (I-15 and I-8)	7,803	7,200	1.08

2.5 BASELINE CONDITIONS FOR GOODS MOVEMENT

The total 2002 truck traffic generated in San Gabriel Valley is approximately 134,000 trucks per day with the Pomona Freeway (SR-60) being the most heavily used freeway by trucks, carrying about 35% of the total truck traffic. The San Gabriel River Freeway (I-605) carries about 25% of the daily truck traffic, and

the San Bernardino Freeway and Foothill Freeways carry about half as much truck traffic as the Pomona Freeway.

Interstates 5, 10, 15, 605, and 805 in the vicinity of the stations are all part of Surface Transportation Assistance Act (STAA) network. Trucks longer than California legal size are allowed to operate on the STAA network.

The arterial truck traffic in this corridor is about 5% of the traffic volume during the peak commute hours and increases to about 10% by mid-morning. In general, trucks do tend to avoid the commute peak when they have the flexibility to do so.

All of the roadways providing access to the stations were reviewed for truck route designations. Data were available for freeway and highway truck route designations from Caltrans. However, data were not available for the surface streets serving the stations. State Route 78 in the vicinity of the Escondido Transit Center is classified as a California Legal Network.

For the streets where the stations would have driveway access, an estimate of the level of truck traffic was made based on field observations and surrounding land uses, which is summarized in Table 2.6.

Table 2.6 Baseline Level of Truck Traffic

STATION	Land Use in the Vicinity of the Station	Level of Truck Traffic on Roadways with Station Access
El Monte Station (1A)	Industrial	High
South El Monte Station (1B)	Industrial	High
City of Industry Station (1B)	Industrial/Residential	Medium
Pomona Station (1A)	Commercial	Medium
Ontario Station (1A)	Commercial	Medium
Colton Station (1A)	Vacant	Low
UCR Station (1A)	Vacant	Low
San Bernardino Station (1C)	Transportation & Utilities	High
March ARB Station (1A)	Vacant	Low
Temecula Station (2A)	Vacant	Low
Escondido Rock Springs	Residential	Low
Mira Mesa	Residential/Commercial	Low
Qualcomm	Commercial	Medium
Escondido Transit Center	Commercial and Industrial	High
UTC Transit Center	Residential	Low
San Diego Airport	Commercial and Industrial	Medium
Downtown San Diego	Commercial	Low

2.6 BASELINE CONDITION FOR PARKING IN THE VICINITY OF STATIONS

Parking conditions in the vicinity of the stations is based on available on-site parking and the adjacent land use. The baseline condition for parking in the vicinity of the stations was based on field observations. Estimates of the available parking are listed in Table 2.7.

Table 2.7 Baseline Parking Spaces at Stations

STATION	Land Use in the Vicinity of the Station	Available Parking
El Monte Station (1A)	Industrial	Low < 100
South El Monte Station (1B)	Industrial	Low < 100
City of Industry Station (1B)	Industrial/Residential	Low < 100
Pomona Station (1A)	Commercial	Low < 100
Ontario Station (1A)	Commercial	Low < 100
Colton Station (1A)	Vacant	N/A*
UCR Station (1A)	Vacant	N/A*
San Bernardino Station (1C)	Transportation & Utilities	Low < 100
March ARB Station (1A)	Vacant	N/A*
Temecula Station (2A)	Vacant	N/A*
Escondido Rock Springs	Residential	Low (<100)
Mira Mesa	Residential/Commercial	Low (<100)
Qualcomm	Commercial	Low (<100) **
Escondido Transit Center	Commercial	Low (<100)
UTC Transit Center	Residential	Low (<100)
San Diego Airport	Commercial	Low (<100)
Downtown San Diego	Commercial	Low (<100)

* Not applicable, vacant land.

* Shared parking opportunities may be available from Qualcomm Stadium

Parking conditions at the study airports are based on available on-site parking. San Diego Airport has limited on-site parking and requires users to seek alternative off-site parking sources.

3.0 EVALUATION METHODOLOGY

The traffic, transit, circulation and parking analyses for this program-level EIR/EIS were focused on a broad comparison of potential impacts to traffic, transit, circulation and parking along corridors for each of the alternatives (modal and high-speed train alternatives) and around stations. The potential impacts for each of these alternatives were compared with the No-Project Alternative.

Highway, roadways, passenger transportation services (bus, rail, air, intermodal), transit facilities, goods movements and parking issue were evaluated in the analyses. Transportation facilities, highways and roadways included in the analyses: 1) serve as the primary means of access to proposed rail stations and airport facilities as well as highway/roadway improvements/new facilities in the Modal Alternative; and 2) are within one mile of proposed rail stations and (in the Modal Alternative) airports and major routes along alignment/highway corridors.

Initial analysis included identifying primary routes to be considered including highways designated in the No-Project and Modal alternatives and all modes of access to the stations areas and airport areas in the Modal and HST Alternatives, respectively. The primary routes/modes of access for the stations and airports considered assumptions for distribution of trips by direction.

Once primary routes were identified, screenlines or cordons combining segments of the primary routes which reasonably represent locations for evaluating in the aggregate baseline traffic and public passenger transportation conditions (using data for 2002, 2020 or other similar years as available) in the morning

peak-hour were selected. No new traffic counts were made where data was not available, and the respective MPO regional travel forecasting models were assumed sufficiently accurate for purposes of forecasting traffic on the screenlines or cordons chosen. Baseline conditions were evaluated using the following methodology:

- Baseline (2002 and 2020 as available data allowed) ratios of demand to capacity across each screenline or cordon for roadway and public transportation facilities were established using Highway Capacity Manual standards for capacity.
- Baseline conditions (2002, 2020) were established for roadways based on available counts of existing weekday-morning peak-hour traffic volumes on roadway segments (not intersections) to be analyzed. This involved comparing existing volumes to capacity (V/C) to determine level of service at link level.
- Baseline conditions were established through available counts of existing weekday-morning peak-hour loading on public transportation links and services. No new traffic counts were assumed when data was not available. This entailed comparing existing loading to theoretical capacity of service or facility to determine load factor at the link level; using standard Highway Capacity Manual for capacity.
- Baseline conditions (2002, 2020) were characterized for goods movement (truck/freight) in the general area of study (primarily to identify key goods movement means/corridors) and for parking in the vicinity of stations and airports. Parking conditions are based on any 2002 parking reserves, local plans for major parking expansion, and adequacy of local parking codes for meeting No-Project growth in demand.

Trip generation was then calculated by adding to baseline volumes forecasted 2020 demand for high-speed rail and (for the Modal alternative) airports, or highways comprising alternatives, plus local trips in 2020 generated by project-related development (as data are available) and trips due to induced growth. Additional trips were distributed to the identified screenlines or cordons (roadway and public transportation) and added those trips to the appropriate baseline volumes for each screenline or cordon. Next, additional trips were distributed for selected segments/links on primary regional routes and modes of access to stations and similar facilities by adding No-Project volumes obtained from 2020 forecasts (from regional and local agencies), and 2020 travel demand generated by alternatives, to the key accessing facilities (roadways, transit links). This distribution was done at a screenline level to reduce the subjectivity of assigning trips to specific facilities. This involved the following methodology:

- For each screenline or cordon (roadway and public transportation), new ratios of demand to capacity were calculated. Demand is the baseline volumes plus additional trip generation that is available (i.e., trips from project-related development and induced growth may not be available initially); screenline or cordon (roadway and public transportation) capacity will be the baseline capacity plus any improvements included in the alternative being analyzed.
- Link-level analysis of impacts was performed to roadways for weekday morning peak-hour conditions:
- Future No-Project link-capacity conditions were established through available plans from local and regional agencies.
- Screenlines or cordons were evaluated, qualitatively, if alternatives would change link capacity (street closure, grade separation, etc.).

- Future roadway V/C on selected segments by comparing future volumes with and without alternatives with future capacity were determined. Future V/C with and without alternatives were analyzed. This assessment was done at a screenline level for major facilities accessing stations or airports. Capacity levels were based on the Highway Capacity Manual, 1996.
- Link-level analysis of impacts was performed to public transportation services for weekday morning peak-hour conditions.
- Future no-project service or link capacity through available plans from local and regional agencies was established.
- Future link load factor by comparing the future volumes with and without alternatives with future capacity of selected links and services were determined.
- Impacts were determined by comparing future load factors with and without alternatives.
- Roadway capacities used in the volume to capacity ratios were taken at 1,800 vehicles per lane per hour (vplph) for freeways, 900 vplph for divided roadways, 750 vplph for undivided roadways, and 500 vplph for narrow 2-lane roadways.
- Roadway capacities used in the volume to capacity ratios for roads in the Los Angeles and Riverside counties were taken from Southern California Association of Government (SCAG) RIVSAN Comprehensive Transportation Plan (CTP) model. In the San Diego County, Roadway capacities used in the volume to capacity ratios were taken at 1,800 vehicles per lane per hour (vplph) for freeways, 900 vplph for divided roadways, 750 vplph for undivided roadways, and 500 vplph for narrow 2-lane roadways.

Summary tables for the region were then completed that identify impacts on highways/roadways (at screenline), public transportation services, goods movement, and parking facilities. The impacts are described and ranked as 'high', 'medium', or 'low' in the summary table according to the potential extent of change to traffic, transit, circulation and parking.

The final step included identifying mitigation strategies for avoidance of potential impacts related to traffic, circulation and parking. Most mitigations involved subsequent analysis of traffic, circulation or parking in the next phase of work.

4.0 IMPACTS TO TRAFFIC, TRANSIT, PARKING AND CIRCULATION

4.1 NO-PROJECT ALTERNATIVE

The 2020 No-Project demand (traffic volumes) on the primary roads within the one mile radius of stations were obtained from the Southern California Association of Government (SCAG) RIVSAN Comprehensive Transportation Plan (CTP) model. The roadway capacities were obtained from the RIVSAN CTP model assumption as well. The station's aggregate roadway demand (total traffic volume), aggregate roadway capacity, demand to capacity ratio and impact level are presented in Table 4.1. It should be noted that the freeways are excluded from the station analysis based on the assumption that traffic heading toward the stations would be on local streets once they are within the one mile radius of the station.

Table 4.1 - 2020 No-Project Vehicle Demand and Capacity Across Screenlines

STATION	Total Screenline Traffic Volume (Vehicles Per Hour)	Total Screenline Capacity (Vehicles Per hour)	Total V/C	LOS
El Monte Station (1A)	6,112	7,500	0.81	D
South El Monte Station (1B)	4,316	6,250	0.69	B
City of Industry Station (1B)	6,876	7,350	0.94	E
Pomona Station (1A)	12,127	15,000	0.81	D
Ontario Station (1A)	10,344	13,800	0.75	C
Colton Station (1A)	6,306	12,675	0.50	A
UCR Station (1A)	2,119	4,700	0.45	A
San Bernardino Station (1C)	5,990	14,550	0.41	A
March ARB Station (1A)	4,397	7,800	0.56	A
Temecula Station (2A)	1,697	3,200	0.53	A
Escondido Rock Springs (2A2)	6,280	11,400	0.55	A
Mira Mesa (3A1)	15,040	21,300	0.71	C
Qualcomm (3A1)	8,400	12,300	0.68	B
Escondido Transit Center (2B1)	12,050	13,500	0.89	D
UTC Transit Center (3B2)	7,240	14,400	0.50	A
San Diego Airport (3B2)	14,816	16,500	0.90	D
Downtown San Diego (3B2)	12,890	18,000	0.72	C

The airport's aggregate roadway demand (total traffic volume), aggregate roadway capacity, and demand to capacity ratio are presented in Table 4.2.

Table 4.2 - 2020 No-Project Vehicle Demand and Capacity Across Airport Screenlines

AIRPORT and CORDON STREETS	Total Screenline Traffic Volume (Vehicles Per Hour)	Total Screenline Capacity (Vehicles Per hour)	Total V/C	LOS
ONTARIO INTERNATIONAL AIRPORT				
Airport Dr WB (Commerce Pkwy and Haven)	1,694	2,025	0.84	D
Airport Dr EB (Grove and Vineyard)	371	1,650	0.23	A
Vineyard (D St and Holt)	739	2,025	0.36	A
Archibald (I-10 Fwy and Airport Dr)	2,084	2,025	1.03	F